Hunters Point Naval Shipyard
Environmental Program
Fieldwork Update

NAVFAC

Hunters Point Shipyard Citizens Advisory Committee
Environmental & Reuse Subcommittee
February 22, 2021

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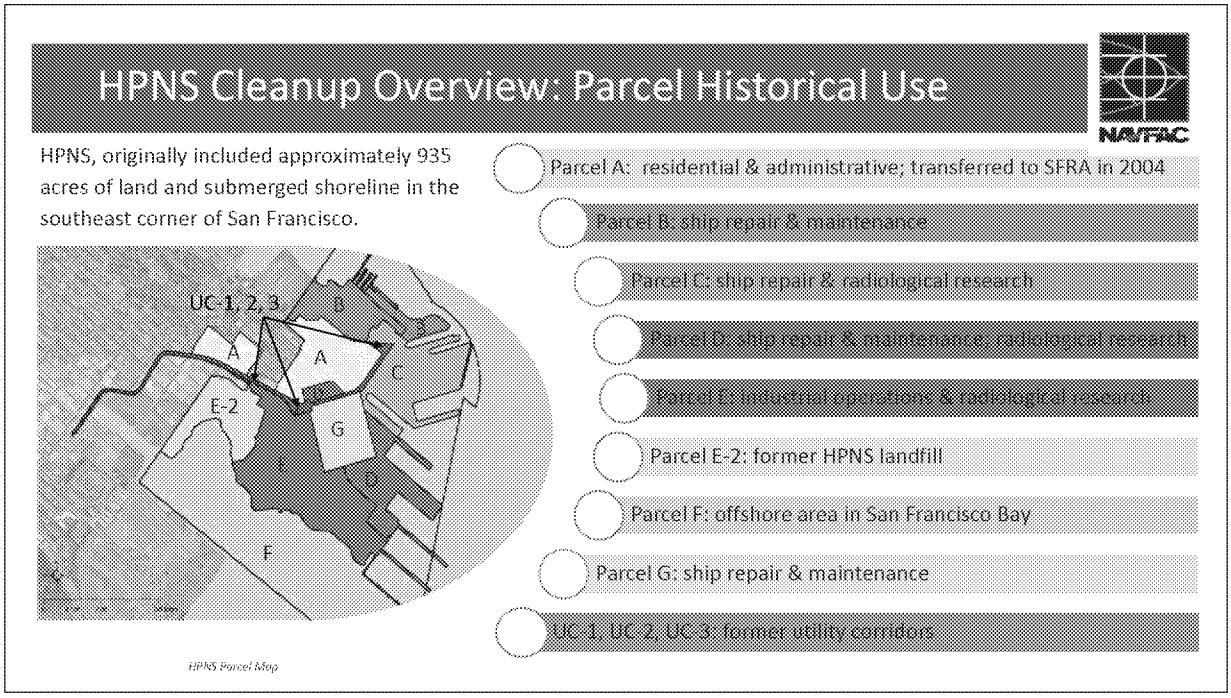
Hunters Point Naval Shipyard
Navy Base Realignment and Closure (BRAC)

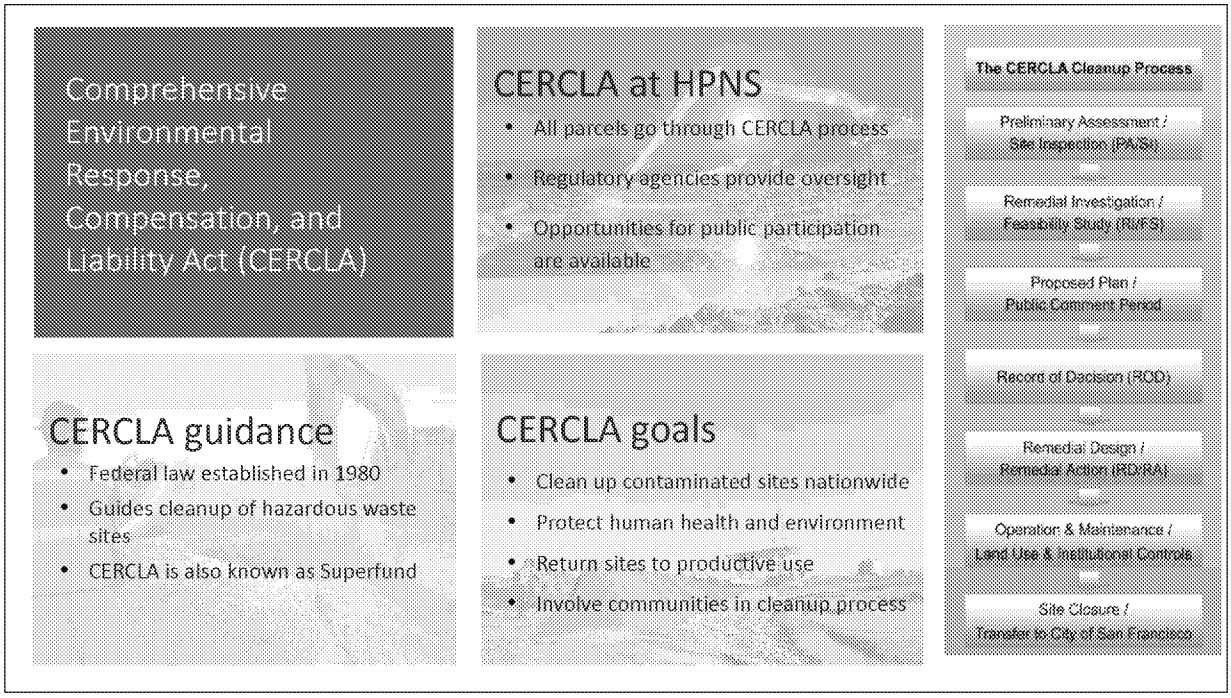
DEREK introduction.

Fieldwork Update - November 2020



BROOKS

HPNS' military history
1939 - 1974*: Navy ship repair and
Maintenance at HPNS drydocks
1948 – 1969: Naval Radiological Defense Laboratory (NRDL) ship decontamination from atomic weapons testing, research on effects of radiation
*At various points in its history, private companies also used the shipyard for ship repair and maintenance



BROOKS

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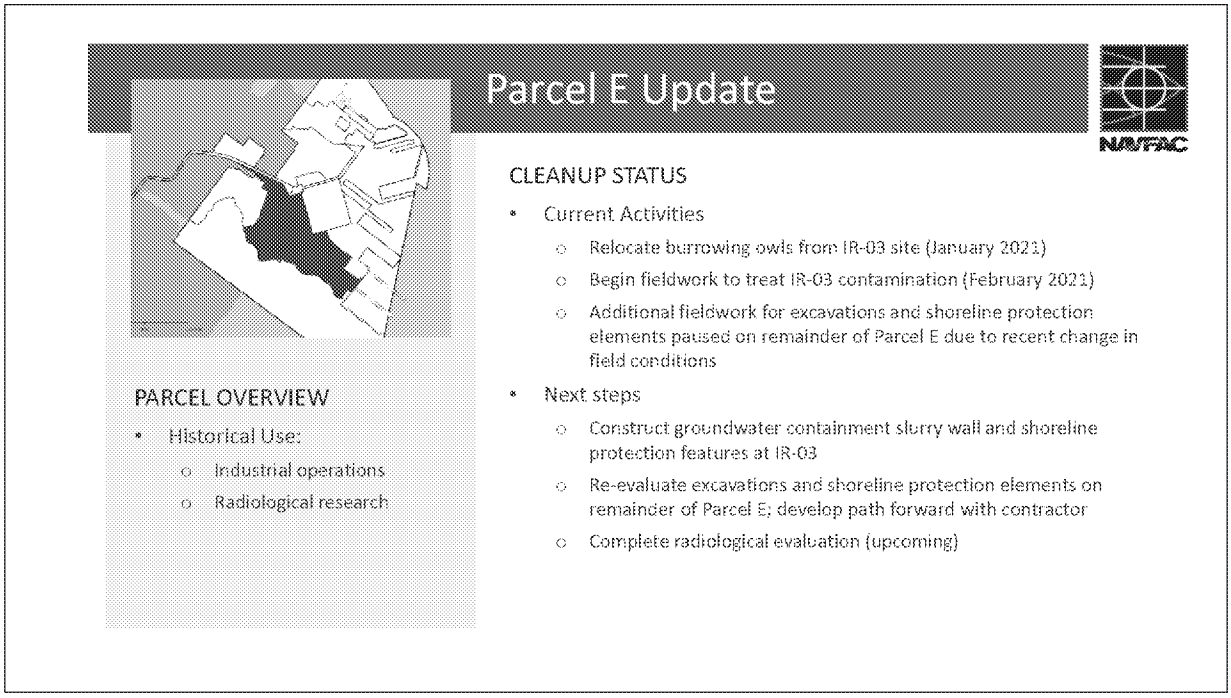

BROOKS

Parcel E was historically used for industrial operations and radiological research. Given its size (almost 300 acres), there are many components to cleanup. These are:
cleanup of contaminated soil and groundwater
and construction of shoreline protection features.
to protect the bay from chemical contamination, and
to address and treat contamination from the former oily waste pond, known as Installation Restoration (IR) site 03

Reference shaded area of map for context.

Given the size of the Parcel, the Navy broke it into separate projects in order to meet contractual requirements. The next slides will depict progress of specific Parcel E projects

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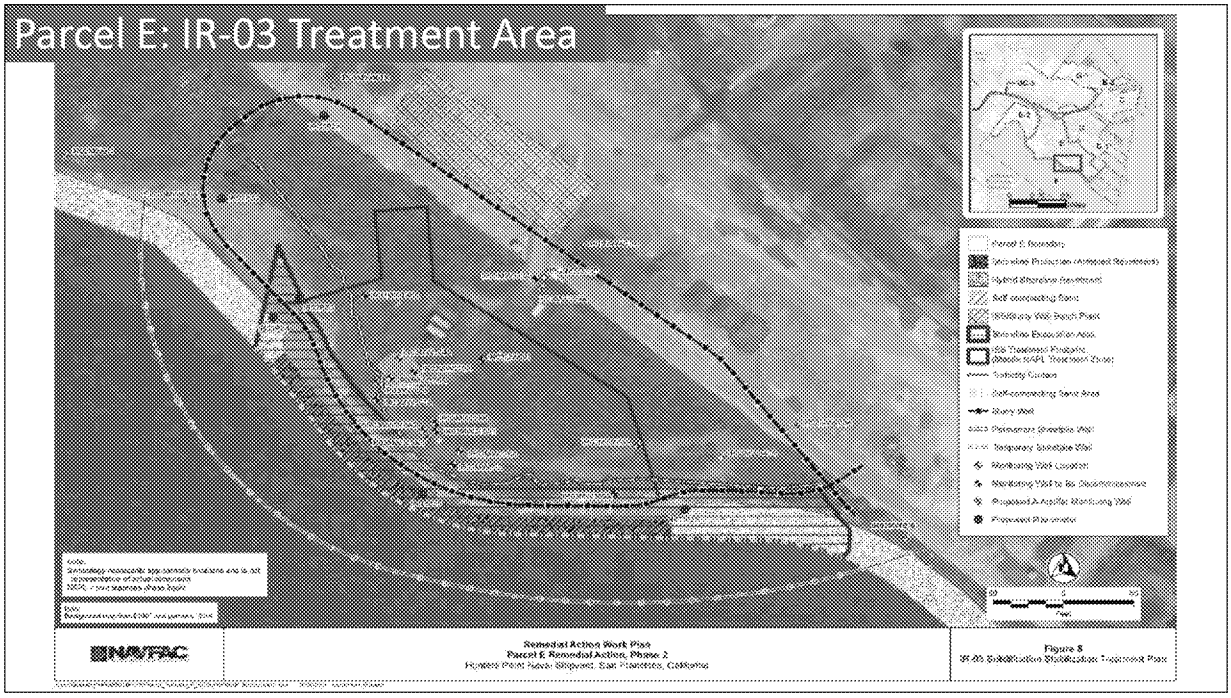

One of the projects at Parcel E is the IR-03 Treatment Area, which we also refer to as the "Oily Waste Ponds." In order to remediate this area, we are taking multiple approaches:
Excavating contaminated soil (possible to encounter radiologically impacted media so scanning is part of the plans)
Stabilizing contaminated soil in place by introducing a cement mixture beneath the surface (in situ stabilization)
Building a slurry wall, which is a cement slurry mixture around the area to prevent contaminants from migrating outside. This wall is represented in the figure by the black dotted line.
IR-03 Schedule next 3 months:
February 2021: Site preparation and maintenance, remove obstructions, level surface for crane installation (to support slurry wall installation), clear shoreline and path for sheet pile installation
March 2021: Install crane, begin sheet pile installation
April 2021: Begin excavations to install sheet pile wall.
Schedule is estimated and subject to change based on field conditions (note: rain impacts are current and ongoing at HPNS as of January 2021)

Liz Roddy's Notes

The performance objectives of Phase 2 of the remedy only address chemically-contaminated soil and sediment along the IR-03 shoreline, in-situ stabilization of the NAPL source area at IR-03, and radiologically impacted media that may be encountered during implementation of this work. The Phase 2 Remedial Action is a chemical remediation project only.

IR-03 Primary Performance Objectives
• Perform pre-construction characterization of subsurface soils and debris (Completed)
• Excavate chemically-contaminated shoreline sediment from IR-03
• Implement in-situ stabilization (ISS) within the non-aqueous phase liquid (NAPL) treatment footprint at IR-03
• Construct the groundwater containment slurry wall at IR-03
• Construct shoreline protection features to protect the backfilled shoreline excavation for shoreline NAPL at IR-03
• Install groundwater monitoring wells
• Complete a remedial action completion report (RACR) summarizing the achievement of remedial action objectives (RAOs) for NAPL at IR-03.

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Environmental stewardship is a crucial component of all of our activities at HPNS. We work closely with a biomonitoring contractor to ensure that all species are protected during cleanup. Here you see a map of burrowing owl locations in Parcel E. All of contractors are prepped to avoid impacting native species. We recently relocated multiple owl burrows to ensure their safety

From where to where? How are they safe if they are still near the shoreline where work will be done?

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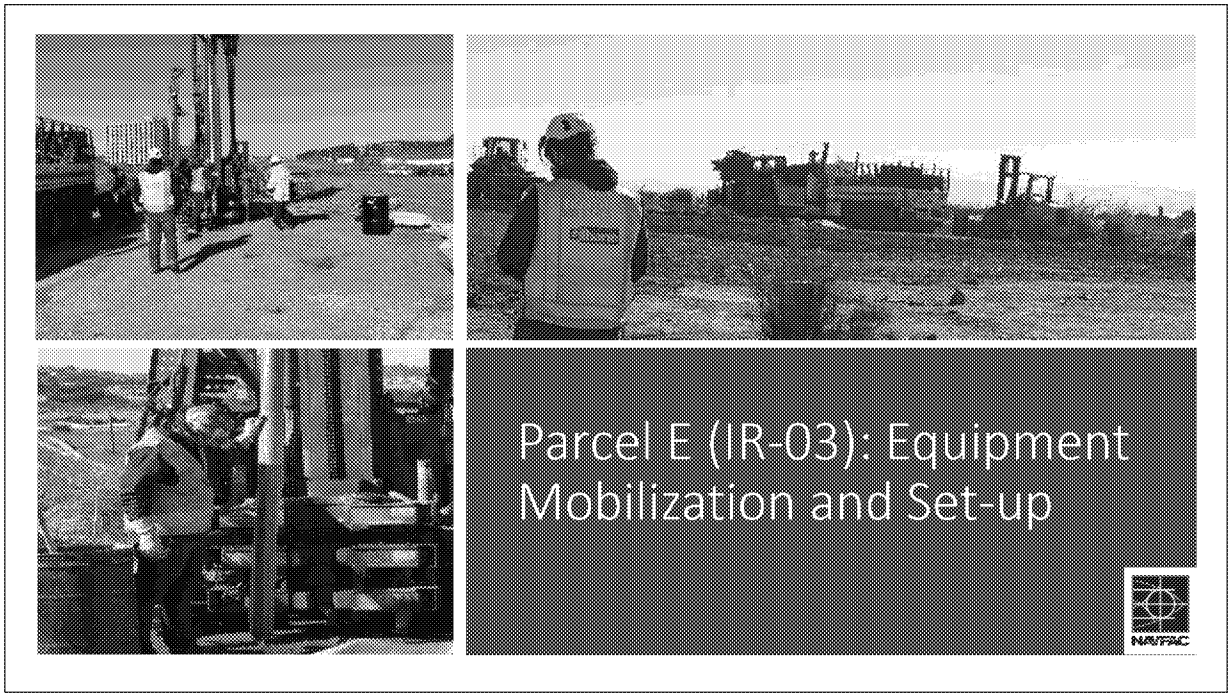

Here are some photos of the IR-03 fieldwork. Currently, the contractor is mobilizing and doing site preparation prior to other activities.
In these photos, you can see a drill rig prepping to construct the slurry wall. A crane will be installed in March, and excavations for the sheet pile wall are scheduled to begin in April.
Schedule is based on field conditions affected by recent rains.

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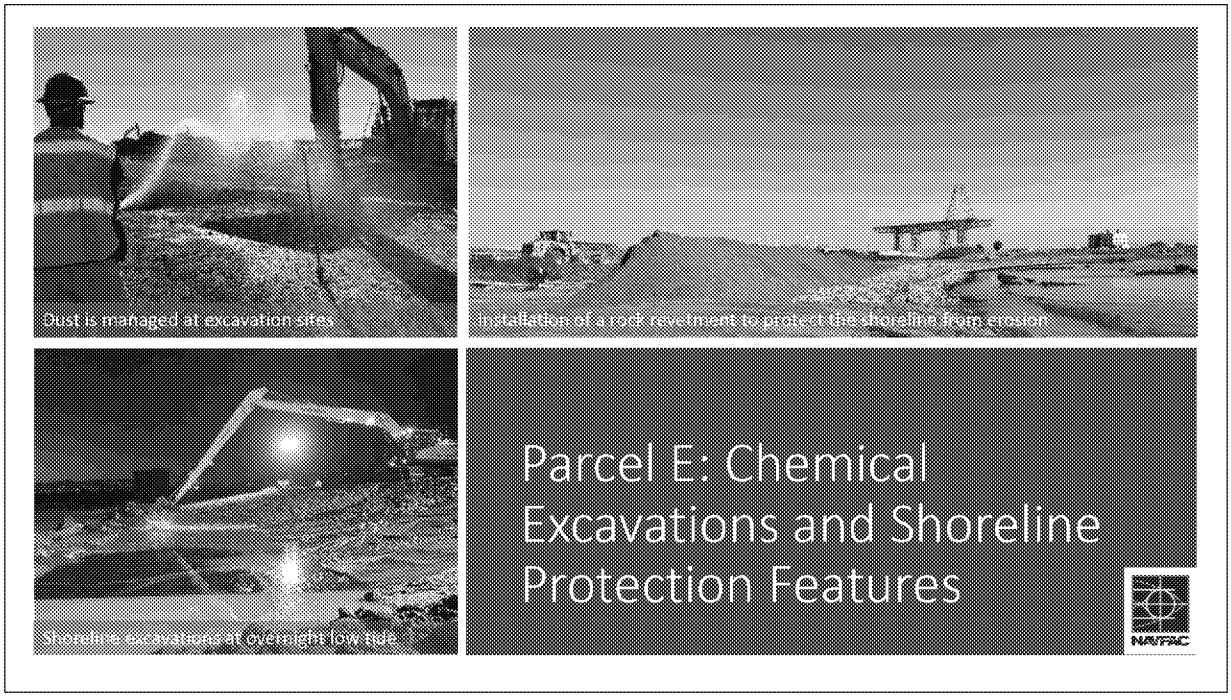

On this slide, we see photos of fieldwork outside of IR-03.
The top-left photo shows our crew assisting with dust prevention procedures.
The image on the right depicts the installation of one of our shoreline protective features.
The photo on the bottom-left conveys one of the more difficult aspects of the project, which is working on the shoreline. Our contractors have been working around the tidal schedule to ensure that excavation activities can be conducted safely at no risk to workers, or the environment

Public interested in dust – adhere to approved work plans and regulatory standards by working in conjunction with our internal team, contractors and the regulatory agencies – examples of mitigation and monitoring - wetting, tackifer on soil and air monitoring stations

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Other areas of Parcel E besides IR-3 (Ph1 and Ph3)
Dust management and air monitoring are a crucial component of all fieldwork at HPNS, as shown in the two photos on the left.

1. The top image shows a worker applying tackifier to the surface of the soil to prevent dust release in windy conditions (sometimes referred to as "gorilla snot").
2. The picture on the bottom left shows one of our multiple air monitoring stations across HPNS, which ensure the safety of both workers and residents.

3. The picture to the top right shows the installation of a sheet pile wall prior to slurry wall construction. This protects the bay from any potential contamination. As noted above a similar installation will be occurring along the shoreline of the IR 03 site in March.

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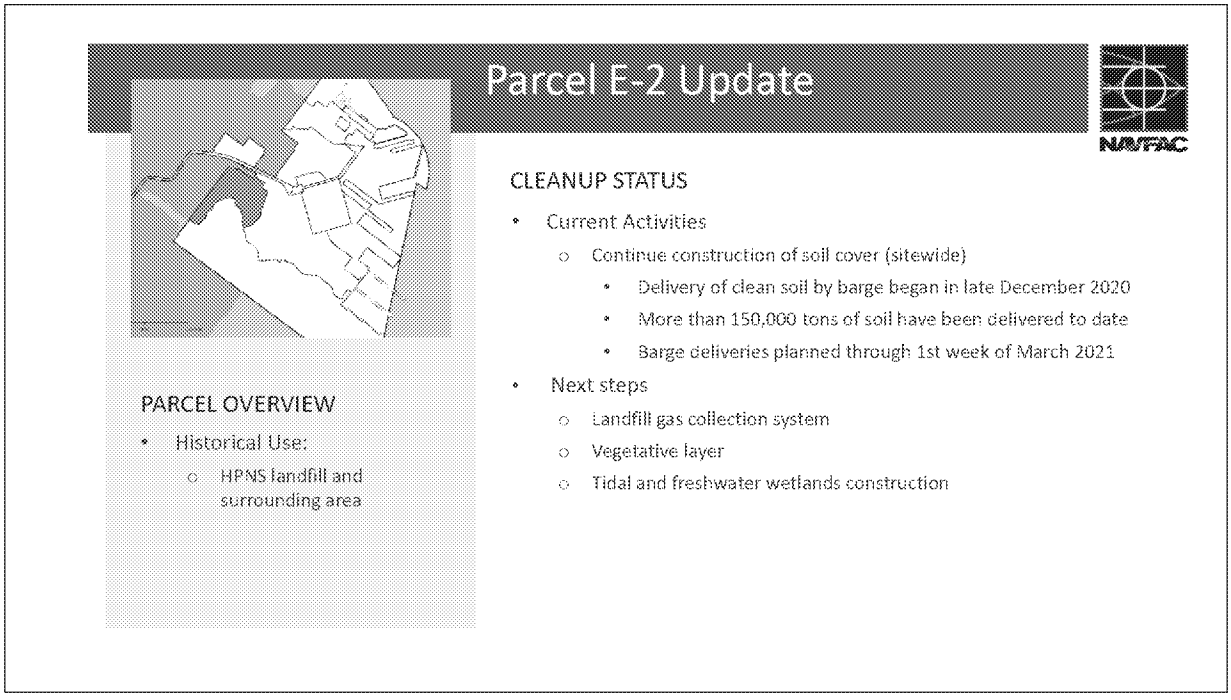

BROOKS

Parcel E-2, shown in blue on the map, was formerly a landfill. An engineered cover has already been placed over the site years ago; with the current work the Navy is improving the final cover.

The work that's been completed to date to address the landfill includes:
excavation of contaminated material;
consolidation of some of the refuse into the center of parcel E-2;
a groundwater system that prevents groundwater from moving through the Parcel E-2 landfill;
and a supplemental engineered cover, which will be installed on top of the landfill to prevent future contact with landfill refuse.
In the future the tidal and non-tidal wetlands around the landfill will be improved and a more advanced gas collection system will be installed.

Radiological scanning activities and removals have been ongoing throughout this entire process.

The Navy is currently shipping clean soil to HPNS by barge to be used as a final cover across all of Parcel E-2. from Decker Island (Solano County)

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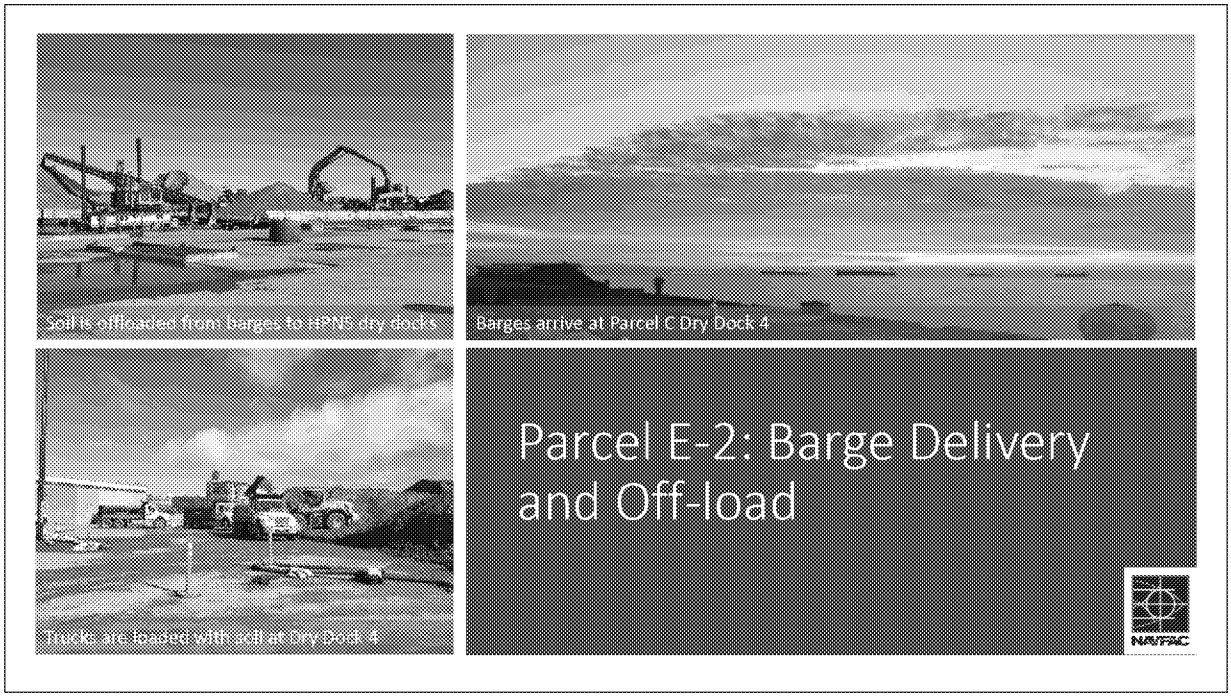

Barges began delivering to the Parcel C dock on December 3rd. Since that time, they have delivered approximately 3,800 tons of soil per day (M-F).

Top right: barge arrival at Dry Dock 4 on Parcel C
Top left: Soil is off-loaded from barges onto the dry dock
Bottom left: Trucks are loaded with soil at DD4

Source of soil – Decker Island in Solano County

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Top left: tarped trucks take soil from Parcel C (dock area) to Parcel E-2
Bottom left: tarped trucks tip soil on Parcel E-2 stockpile area
As can be seen in the image on the top right, a significant amount of soil has been delivered - more than 150,000 tons of soil to date! (estimate another 60,000 tons to still be delivered)
Barge deliveries are planned through the first week of March.
Approx 3,800 tons per day x 5 day/week

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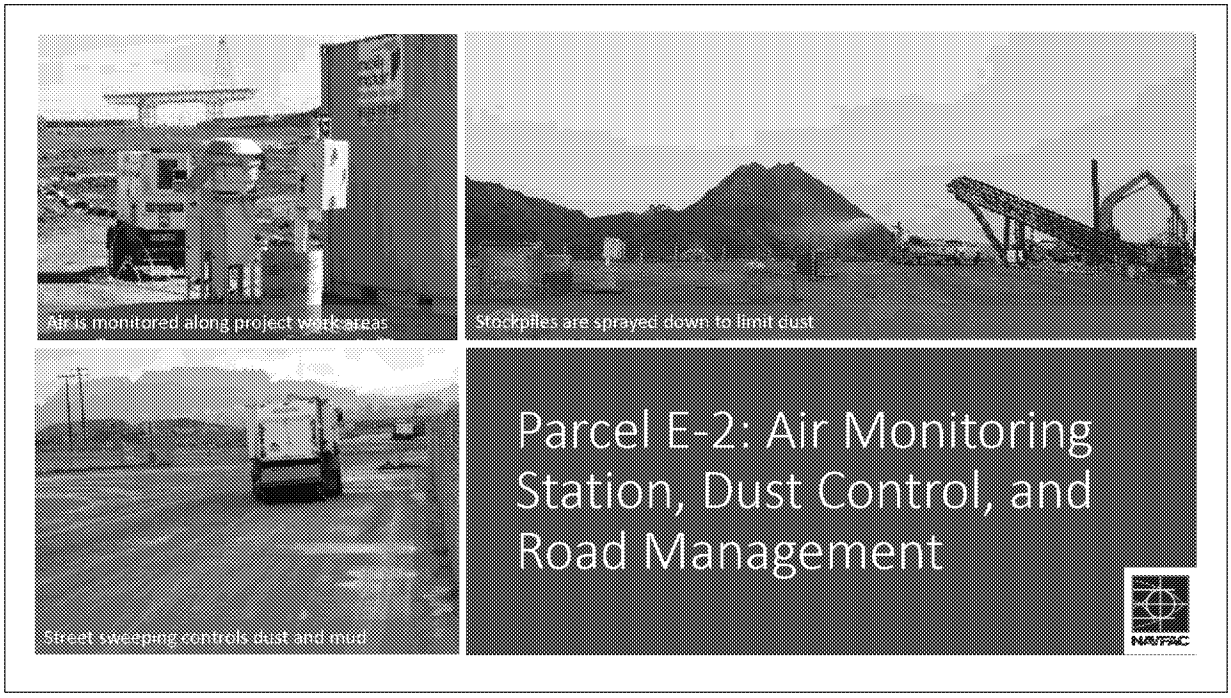

Top right: stockpiles are managed with wetting down and tackifier
Top left: air monitoring stations at the perimeter of the project site
Bottom left – street sweepers control dust and mud on the surrounding roadways

Air monitoring/Dust control: regulated by oversight agencies; comply with workplans; conduct monthly monitoring

if exceedance detected (none since 2004 per July 2020 Fact Sheet) have a process for capturing the gas at the vent and treating to acceptable levels through carbon. Methane is flammable but NOT TOXIC - Lower explosive limit is 5%;

The final landfill gas control system will include a network of new gas extraction wells connected to underground piping. In addition, charcoal filters will be used to remove chemicals, and an enclosed flare to eliminate the release of methane gas into the air.

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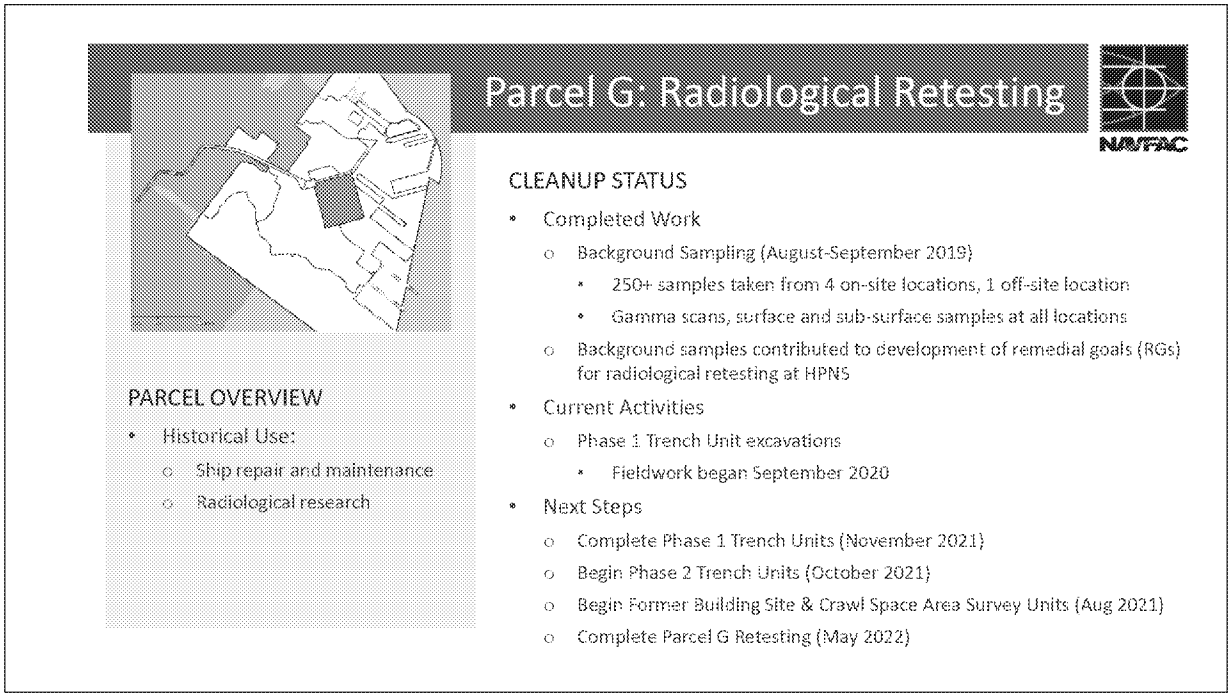

LIZ RODDY

The Navy has completed cleanup work at Parcel G.

This is the first of several parcels at Hunters Point that will undergo radiological retesting. Beginning in August 2020, the Navy began mobilizing for radiological investigation field work at Parcel G. Fieldwork for Phase 1 excavations and sampling began in September. Phase 1 includes 21 excavations and is scheduled to be completed in November 2021.

In the next several slides, I will describe the fieldwork that is currently underway at Parcel G.

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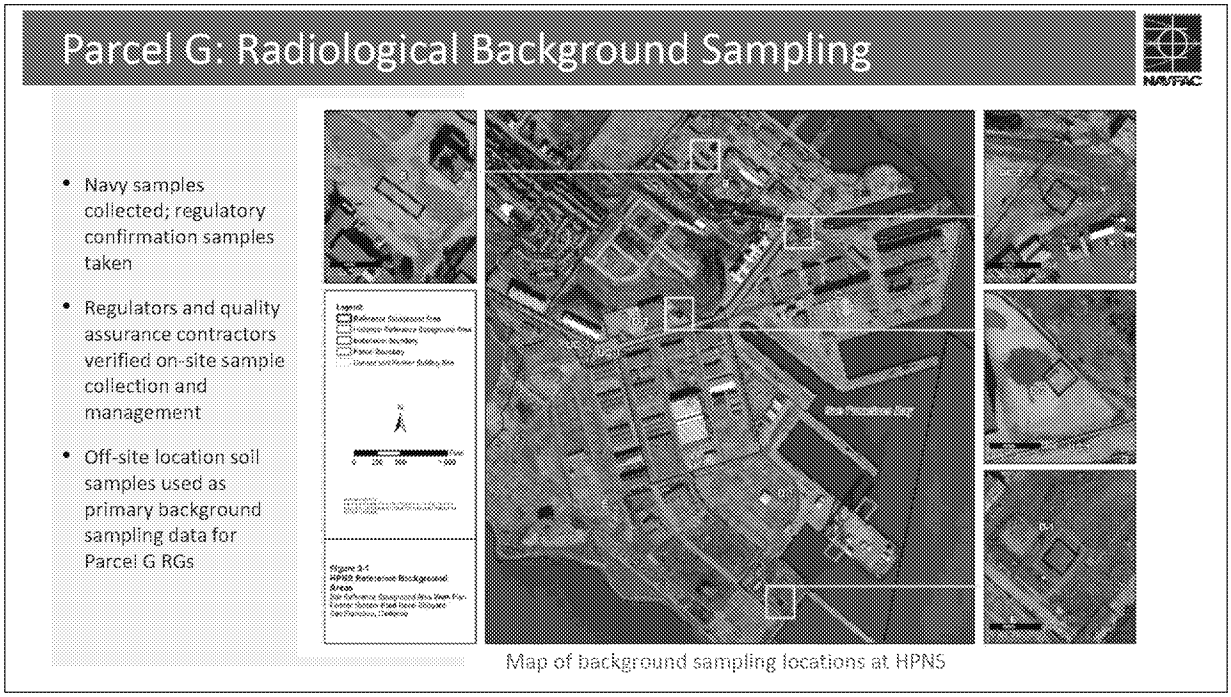
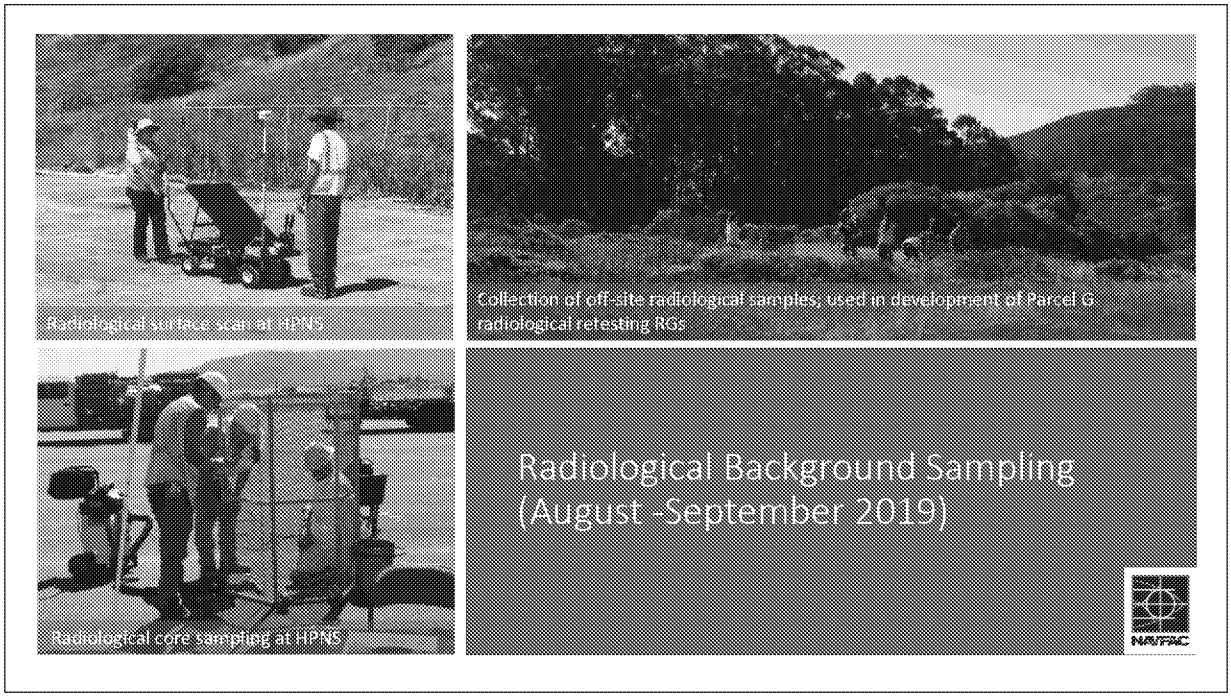


• Establishing background is an especially important part of the retesting process because it allows us to understand what occurs naturally in the earth.
• During August and September of 2020, the Navy collected soil samples in a total of five locations – four were on the former shipyard in areas that were not historically used for radiological work, and one was off-site in an undisturbed area of a local park.
• Once we established what was already there, we evaluated the results, reviewed health protective standards, and established cleanup goals for several radionuclides of concern .
• To ensure health protectiveness, the Navy established very conservative cleanup goals – many of which are higher than natural background levels.
• These cleanup goals are referred to as "remedial goals"



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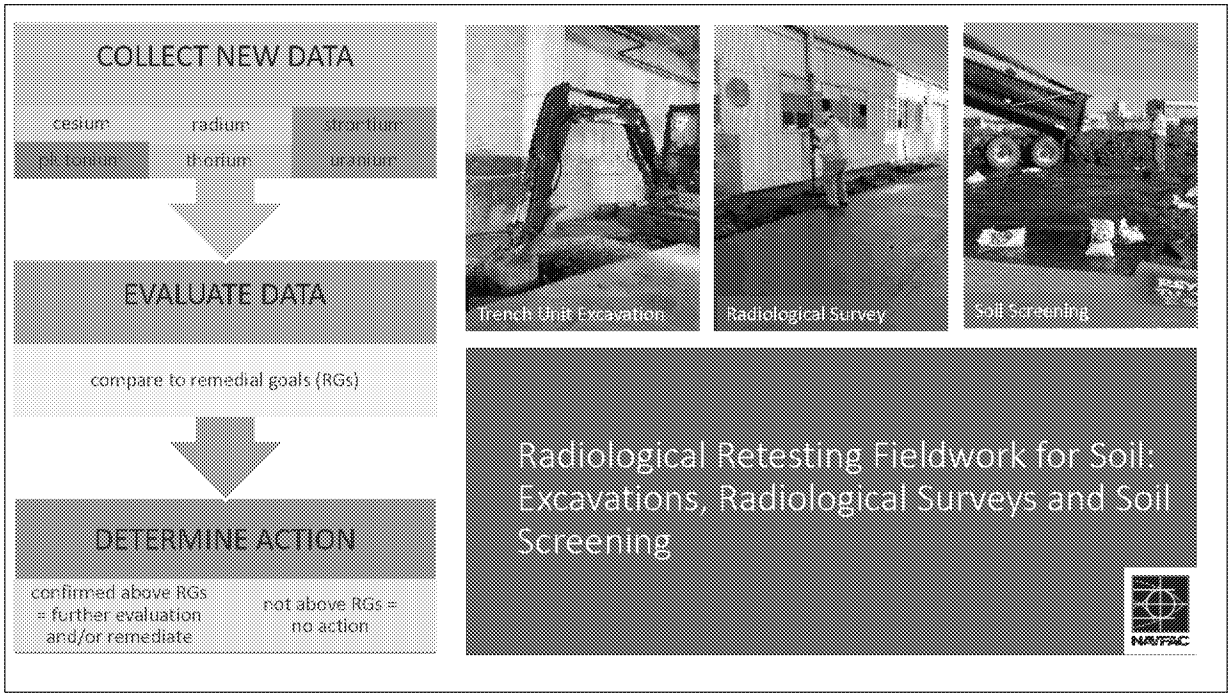

There are three key milestones in the process:

1. First, we are collecting new data for 6 radionuclides of concern and submitting them to an independent lab for analysis. These include:
Cesium, radium, and strontium at all excavations
Plutonium, thorium, and uranium at excavations identified as potential locations for those radionuclides of concern

2. When analysis is complete, the results are compared to the remedial goals that were set in the beginning of this process at background sampling.
If any samples are confirmed to be above remedial goals, the Navy will conduct further investigation and/or remediation.
If none are above remedial goals, the trenches will be filled back in, the durable asphalt cover will be re-installed, and Parcel G will be ready to enter the transfer process.

So what exactly are we doing in the field? The photos on this slide gives some examples of the Phase 1 soil fieldwork process that is underway.

After the durable asphalt cover is removed, crews excavate 100% of the soil in each trench, as shown in the image on the left.
The image in the center shows a radiological survey at an excavation site.
Excavated soil is placed on radiological screening yard pads for sampling and scanning, as shown in the image on the right.

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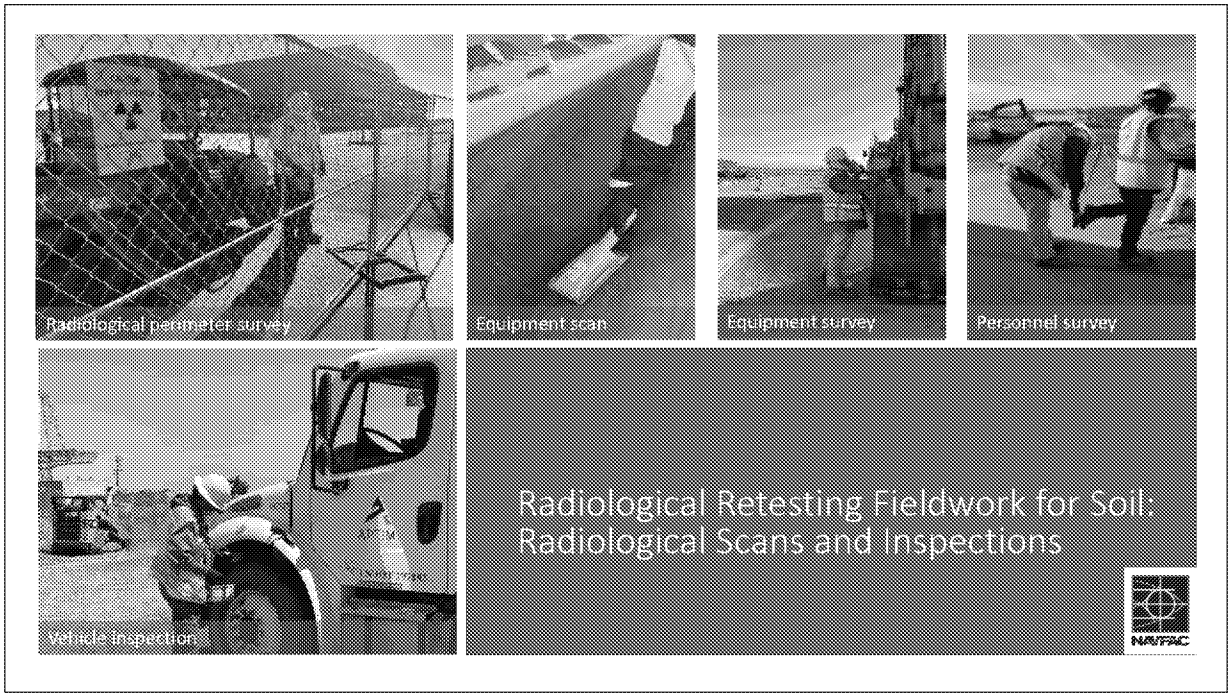

During all fieldwork activities, the safety of our workers and the public is the highest priority.

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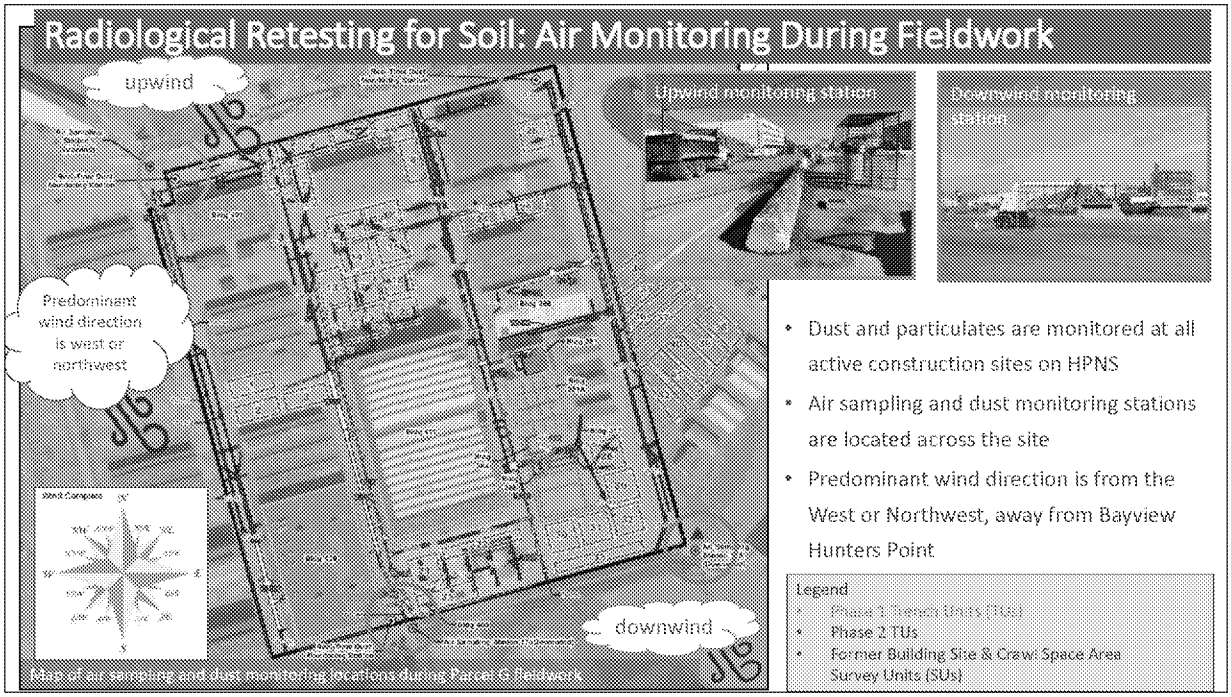

Navy monitors dust at all active construction sites, including radiological retesting at Parcel G
Air monitors are placed upwind & downwind of work sites
Predominant winds blow to West or Northwest – away from SF Shipyard development & Bayview Hunters Point and community

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Radiological retesting soil samples

radium uranium cesium thorium strontium plutonium

Radiological retesting excavation inspection

Radiological Retesting for Soil: Initial Results

We continue to collect data for Parcel G Phase 1 soil analytical results for all six radionuclides of concern. The upcoming slides show initial results through the end of January for cesium-137 and radium-226.

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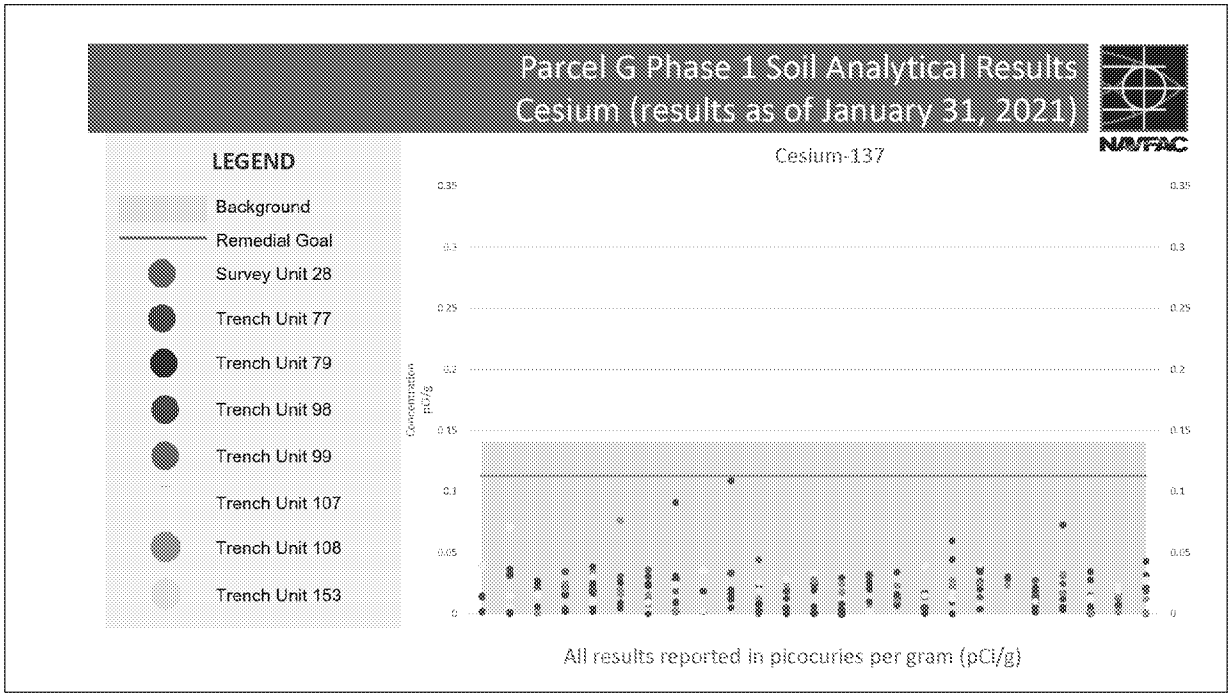

Sampling for cesium and radium involve 25 locations at all 21 excavations.

The remedial goal for cesium is shown as an orange bar in the graph above.
The naturally-occurring background range is represented by the shaded gray area
We have received initial results for 8 excavations, as shown in the legend on the right.

As you can see from this graph, all Phase 1 soil results for cesium fall below the remedial goal established.
In addition, you can see that all initial results fall within background.

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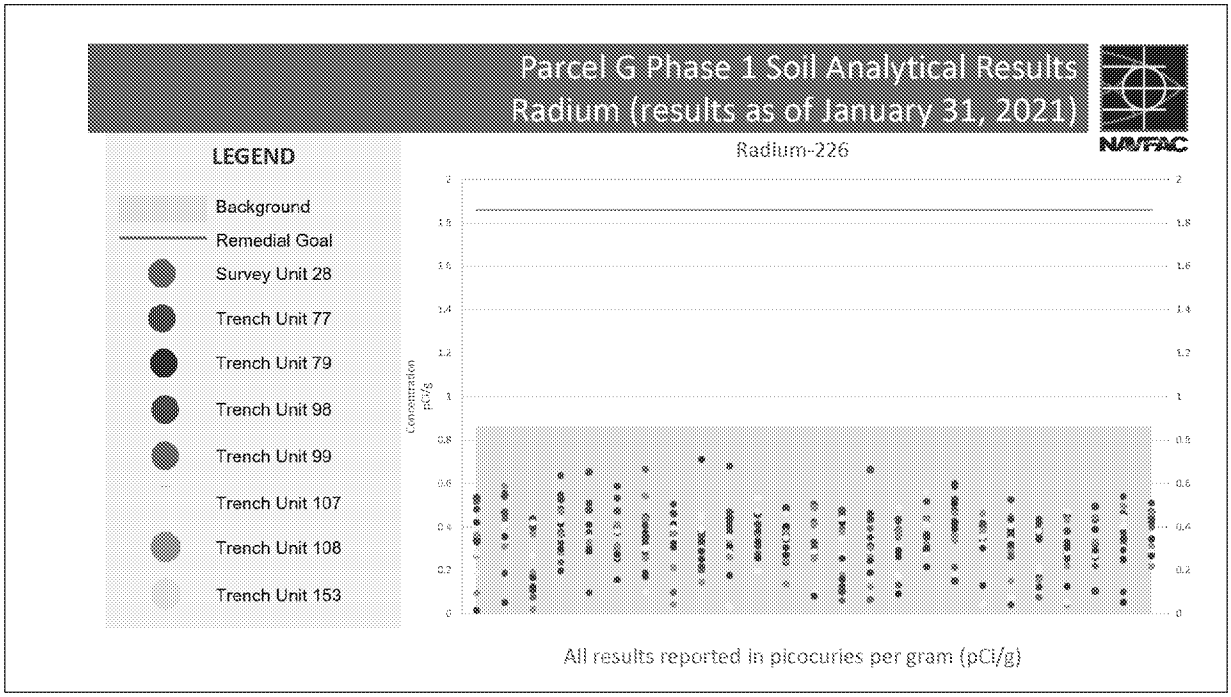

Phase 1 soil results for radium also fall below the remedial goal established and within background.

We are compiling the data for the other 4 radionuclides of concern and look forward to sharing those initial results with you in March.

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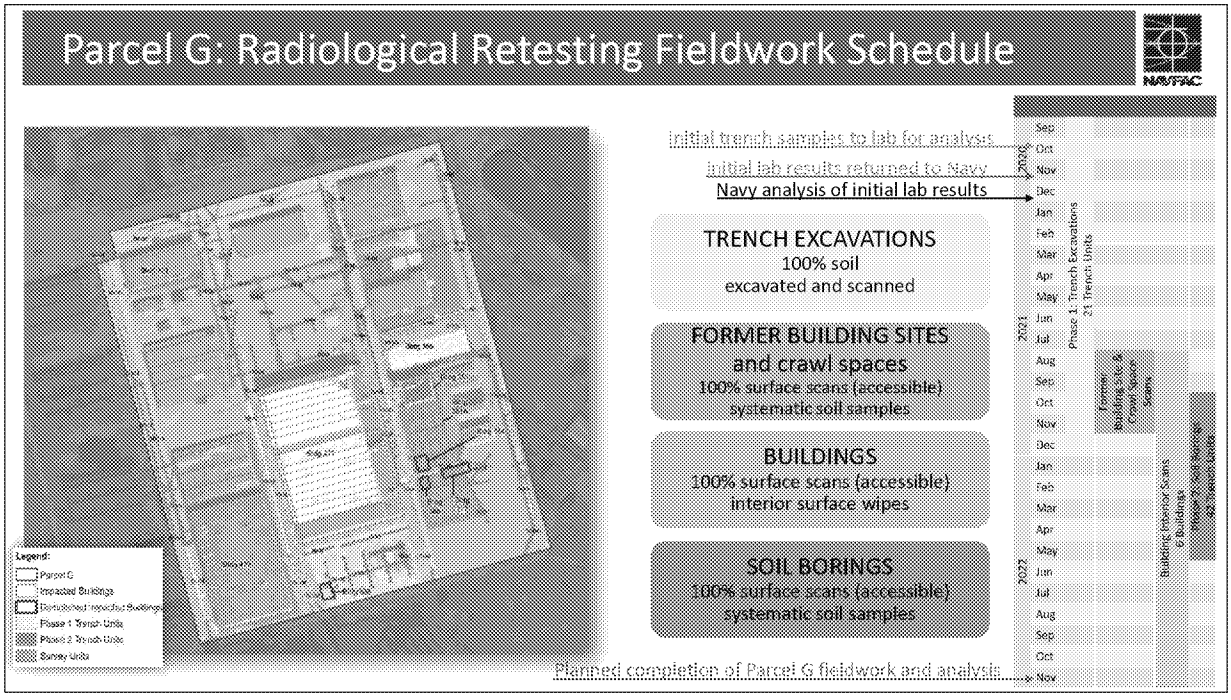


The Parcel G work plan is very detailed, and splits fieldwork into four unique efforts . The map on the left shows all of the areas that are being addressed at Parcel G.

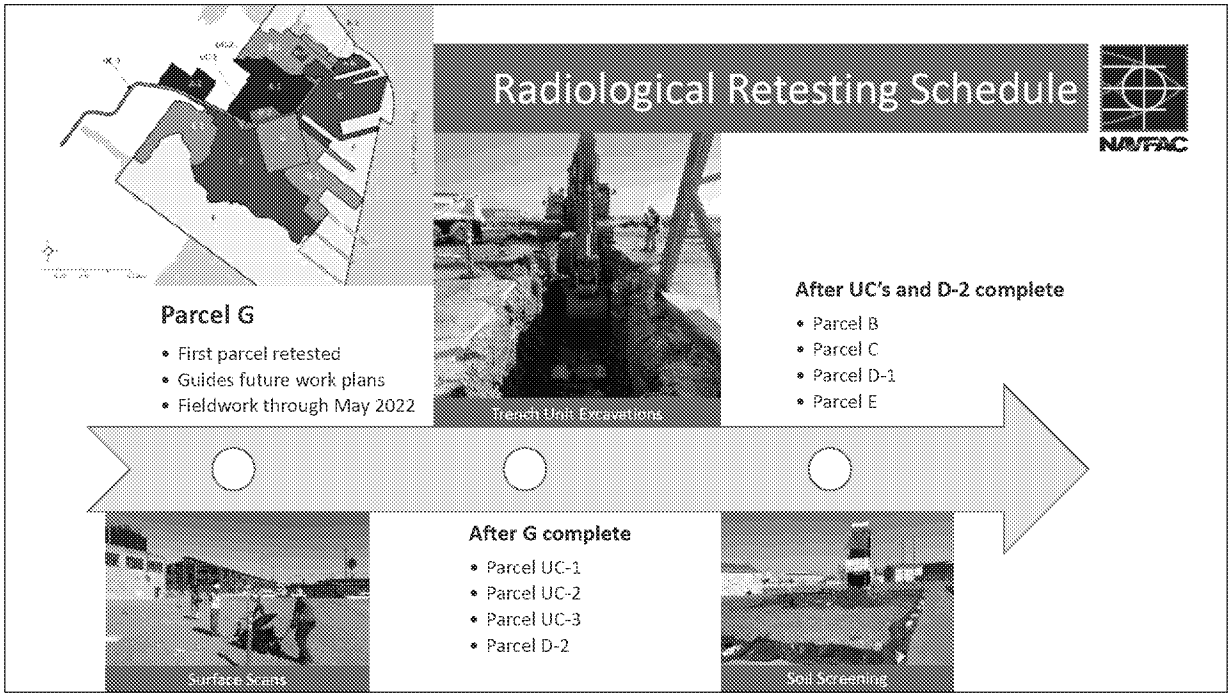
The first activities are identified in bright yellow on this slide. This work is referred to as "Phase 1, trench excavations", and is currently underway.
Equipment was mobilized to the site in August 2020. In September, the Navy began excavating 100% of soil from 21 trench units at Parcel G.
After the soil is excavated, it is scanned, sampled, and sent to an independent lab for analysis.

In August 2021, surface scans of accessible areas and systematic soil borings will begin in former building sites and crawl spaces. These areas are shown in light blue.

At approximately the same time, surface scans of the 6 existing buildings on the parcel will begin, as shown in light green.
Surface scans include handheld monitors and larger units to scan the floors.
Available surfaces will be swiped with a special cloth and sent to an independent lab for analysis.

The last activity at Parcel G is scheduled to begin in October 2021. Phase 2 Soil Borings are shown in pink.
These borings involve drilling into the soil and extracting samples at various depths.
Once the samples are removed, they will be scanned and sent to a lab for independent analysis.
There are 42 trench units included in Phase 2.

Completion of radiological retesting fieldwork and analysis at Parcel G is planned for November 2022, once building scans are complete.



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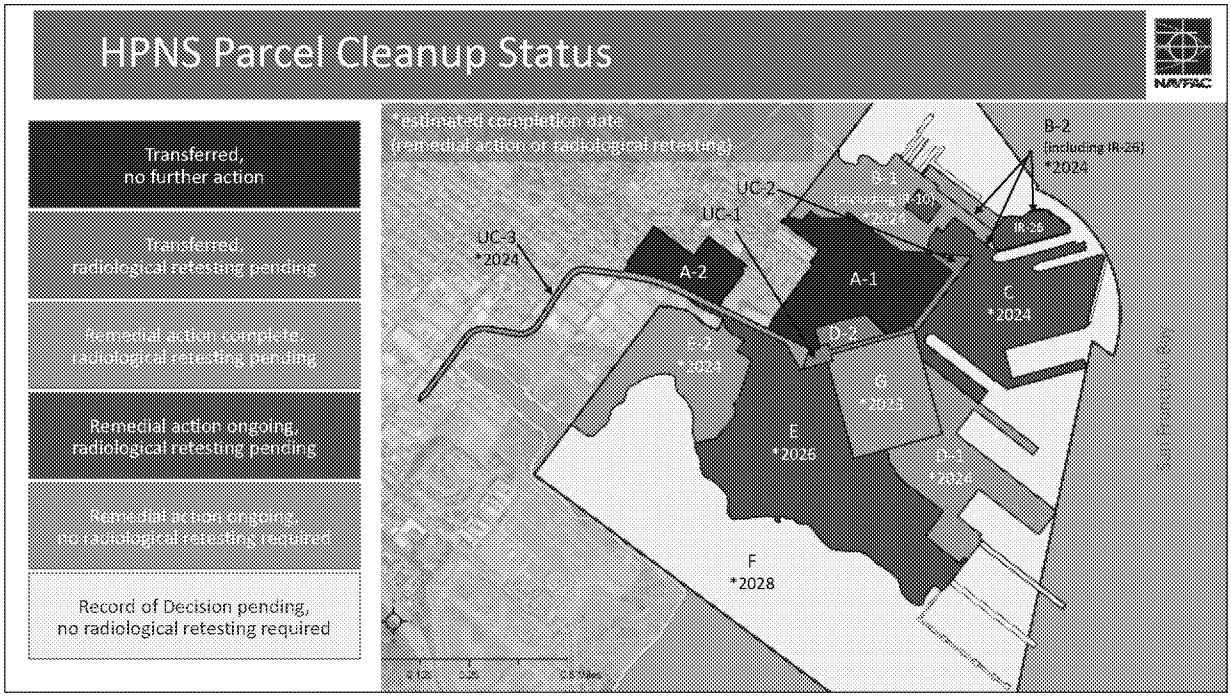
HPNS Parcel Cleanup Status
NAVFAC
Transferred, no further action
Transferred; radiological retesting pending
Remedial action complete; radiological retesting pending
Remedial action ongoing; radiological retesting pending
Remedial action ongoing; no radiological retesting required
Record of Decision pending, no radiological retesting required
* estimated completion date (remedial action or radiological retesting)
B-2 (including IR-26) *2024
UC-2
UC-1
UC-3 *2024
B-1 (excluding IR-26) *2024
IR-26
A-2
A-1
C *2024
D-2
E-2 *2024
G *2023
E *2025
D-1 *2024
F *2028

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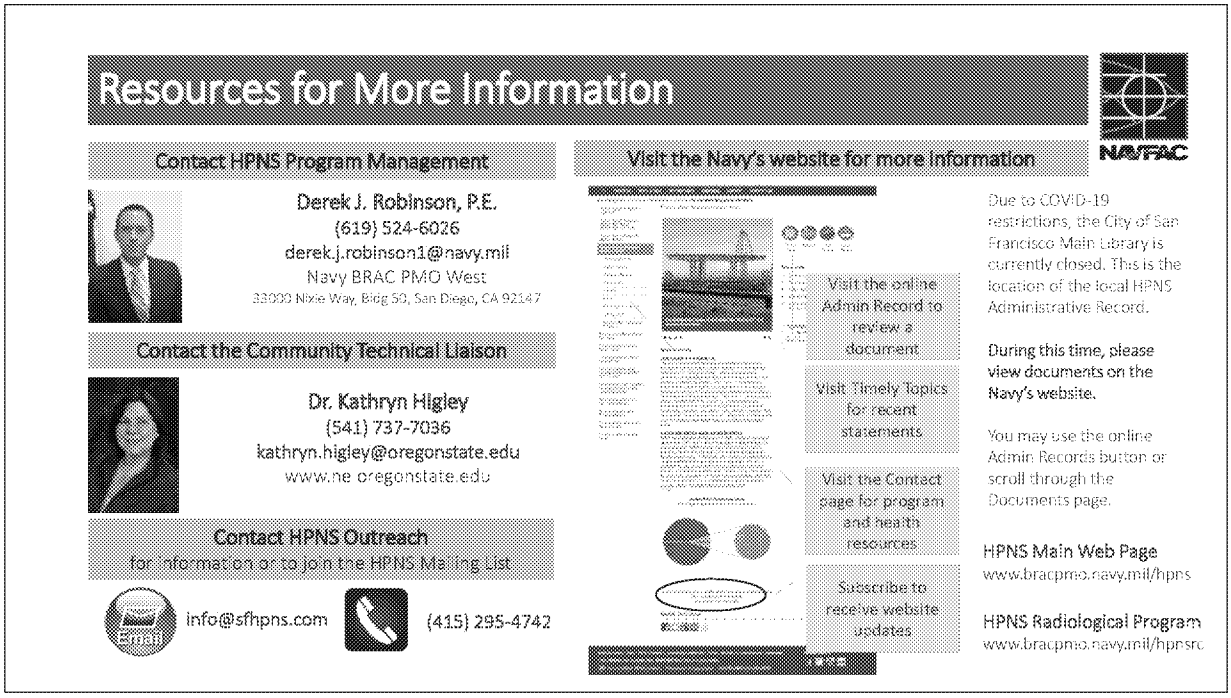

DEREK

This last slide includes resources for more information.

My contact information is on this slide, as well as the information on how to access the Navy's web pages for Hunters Point. In addition, a general email and telephone number are other ways to request program information.

If you prefer to speak to a non-Navy representative. Dr. Kathy Higley, a radiological health expert from Oregon State University, can answer radiological health and safety questions. Her contact information is in the lower left.

We invite you to subscribe to our website updates - information is in the lower right-hand corner of this slide.

We welcome your questions and comments by email or on the HPNS Info Line, shown on this slide.

November 7, 2018

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